

CLAIMS:

1. A detector arrangement comprising at least one detector module (Dx) having a plurality of individual detector elements (36, 37) as well as an electrical unit (331) having an electro-optical transducer (331a) for processing the signals of the detector elements (36, 37) and for generating optical detector module output signals.
- 5 2. A detector arrangement as claimed in claim 1, in which the electrical unit (331) comprises an analog-to-digital converter (A/D) and a parallel-to-serial converter (P/S) for generating a serial digital detector module output signal.
- 10 3. A detector arrangement as claimed in claim 1, in which the electrical unit (331) comprises an opto-electrical transducer (331b) with which detector module input signals can be supplied to the detector elements (36, 37).
- 15 4. A detector arrangement as claimed in claim 1 or 3, in which the electro-optical transducer (331a; 331b) comprises a photodiode or an LED and/or a laser diode.
- 20 5. A detector arrangement as claimed in claim 1, having at least one optical fiber coupler (332) with which the at least one detector module (Dx) can be optically coupled to an optical fiber cable (341).
6. A detector arrangement as claimed in claim 1, in which the at least one detector module (Dx) comprises a detector chip, especially a CMOS chip (36, 37), on which the detector elements are formed.
- 25 7. A detector arrangement as claimed in claim 6, in which the electrical unit (331) is integrated in the at least one detector chip (36, 37).

8. A detector arrangement as claimed in claim 1, in which the at least one detector module (Dx) comprises a module carrier (30) having an inner space (33) for the electrical unit (331) and having a cable duct (34) for at least one optical fiber cable (341).

5 9. A detector arrangement as claimed in claim 8, in which the at least one detector module (Dx) is slidably guided between two guide rails (31, 32), of which at least one rail is provided for connection of a terminal of a power supply to the detector module (Dx).

10 10. A detector arrangement as claimed in claim 1, in which the detector module (Dx) comprises a module connector (333) for optical connection of the detector module (Dx) to a further detector module (Dx) arranged adjacent thereto or to an optical fiber interface that is provided for connection of the detector arrangement (10) to a processing unit or central processing unit (Z).

15 11. A detector arrangement as claimed in claim 10, in which the optical fiber infrastructure comprises a backplane (50) in the form of a printed circuit board having a plurality of embedded optical fiber cables for optical connection of the detector arrangement (10) to the processing unit or central processing unit (Z).

20 12. A computer tomograph having a gantry (1) with a detector arrangement (10) as claimed in any one of claims 1 to 11.

25 13. A computer tomograph as claimed in claim 12, in which the detector arrangement (10) as well as a processing unit in the form of a central processing unit or buffer memory (Z) for wireless transmission of the detector module output signals to a stationary evaluating unit are arranged on a rotatable part of the gantry (1), the detector arrangement (10) being optically connected to the central processing unit or the buffer memory (Z) by way of an optical fiber infrastructure.